# Operating instructions
# Installation instructions
# Technical manual

## Semi-automatic system (SISO)

Product Code: 545300-EN

Version: 004-01/13

Belimed

Infection Control

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# 1 INTRODUCTION

## 1.1 Device identification

The SISO is a transport conveyor exclusively serves to transport racks into or out of the washer-disinfector WD 290 (09).

The SISO is available in more models:

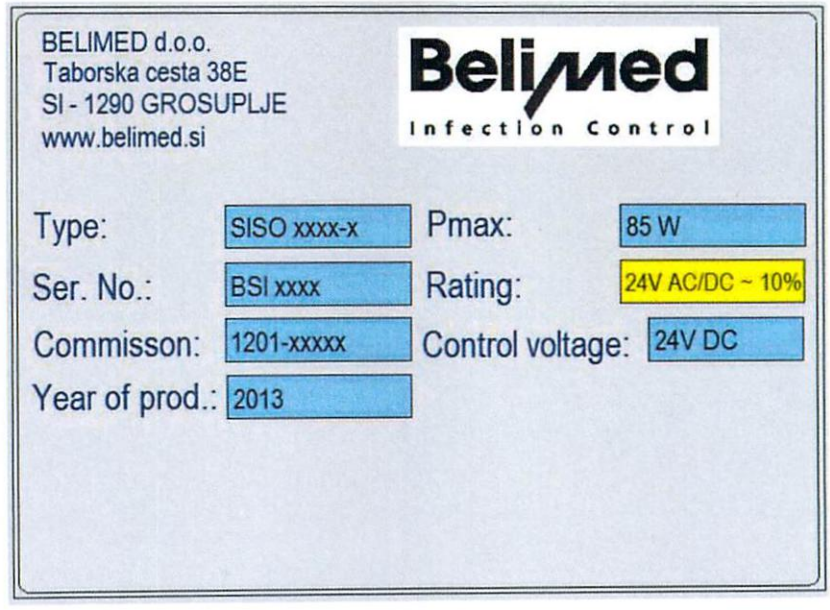
- SISO LM01 (R or L)
- SISO LM02 (R or L)
- SISO UM01 (R or L)
- SISO UM02 (R or L)

Where means:
SISO = Straight In Straight Out
LM = Loading module
UM = Unloading module
01 = for one rack
02 = for two racks
R = Operating panel on Right side of module
L = Operating panel on Left side of module

## 1.2 Rating plate

The following rating plate with the required data is fixed on the SISO system. It is located under the front cover. See chapter 2.6 Position of the rating plate and warning labels

Label example:



## 1.3 Target groups for manuals and instructions

These instructions are part of the product and are intended for the following target groups.

| Instructions | Target group |
|---|---|
| Installation instructions | Installation personnel |
| Operating instructions | Operating personnel |
| Circuit diagram | Technical support |
| Technical manual | Technical support |

All instructions must be available to the relevant target group!

## 1.4 Warranty

Belimed does not accept any responsibility for work performed by external Staff, i.e. employees not directly employed by Belimed. The system must only be installed and put into operation by personnel who have been trained by Belimed.
Only spare parts from Belimed may be used for installation and maintenance.
No warranty is given if spare parts are used which do not originate from Belimed or which have not been approved by Belimed.

## 1.5 Modifications

Text, graphics and data are in accordance with the technical status of the product on the issue date. We reserve the right to changes during further development. The original of this document is in English language (EN).

## 1.6 Conventions applied in this instructions

### 1.6.1 *Symbols used for hazards and notices*

In the entire instruction manual (documentation) you will find the following symbols and indications for work safety, which are important to prevent hazards to health and life:

**DANGER.**
There is a direct threat to life and health of persons.

**WARNING**
There is a potential threat to life and health of persons.

**CAUTION**
There is a risk of damage to equipment and property.

**NOTE**
Advice for easier work and information for optimal use.

### 1.6.2 *Typographic conventions used in the text*

Lists and instructions can be distinguished by their appearance:

- List

1) Instruction

→ *Result of the action described*
<Button designation>

## 1.7 About these instructions

The product can be provided in different configurations. In these operating instructions, graphics of standard configurations are shown as examples.
An overview of the possible configurations can be found in Chapter 3 MACHINE DESCRIPTION.

# 2 SAFETY OF THE SYSTEM

With this product you have acquired a system on the latest state of technology regarding safety.
With the Declaration of incorporation, we confirm that the product complies with the essential safety and health requirements.
Hazards may still arise from the product if it is operated incorrectly or if it is not used as intended.

## 2.1 Intended use

The SISO enables loading of racks into a washer-disinfector WD 290 (09). The SISO exclusively serves for automatic loading and unloading of a washer-disinfector WD 290 (09) with racks.
Compliance with the manufacturer's instructions regarding installation, operation, transport and maintenance is also part of intended use.

**NOTE**
For repair, original spare parts must be used only. This also applies for optional utilities or fixtures.

## 2.2 Unintended use

Each use beyond intended use is regarded as unintended use. The manufacturer does not accept liability for damage resulting from such use. The operating company bears the risk therefor.
The manufacturer does not accept liability for any damages occurred due to operating errors, unintended use and non-observance of the instructions or operation by uninstructed staff. Unauthorized modifications and alterations by the operating company or operator, without the manufacturer's written confirmation, are not allowed and exclude the manufacturer's liability for any damages to material and persons occurred.

## 2.3 Personnel requirements

The SISO may be operated, maintained and repaired by qualified and instructed staff only.

**NOTE**
The operating company may exclusively charge persons, companies or facilities with servicing (maintenance, inspection, repair and treatment) that have the technical knowledge, prerequisites and the required equipment to carry out this job properly.

Each person charged by the operating company with maintenance and repair of the SISO must have read and understood the instruction manual.

The responsibilities for operation, maintenance and repair must be clearly de- fined and observed, so there are no unclear competences in terms of safety.

**NOTE**
The operating company shall be responsible for the determination of responsibilities.

## 2.4 General safety notes

Generally the following safety instructions are to be observed:

- The SISO must only be started up in good order and condition and under consideration of the instruction manual.
- The SISO may be operated by instructed staff only.
- Safety equipment is must not be uninstalled or bridged.
- The racks are heavy (max. 100 kg). For handling, the respective transfer carts must be used.
- Pay attention when handling the loaded transfer cart.
- There is a risk of injury by pointed or sharp objects inside the racks.
- In case of failure and damage the superior must be informed. Failures are to be eliminated immediately.
- Maintenance may be carried out by staff trained by Belimed and authorized staff only.
- Fuses may exclusively be replaced by a licensed electrician as per circuit diagram.
- All cleaning and maintenance work must be carried out during machine downtimes. The washer-disinfector WD 290 (09) must be deactivated.
- Prior to maintenance work, the SISO must be undocked from the washer-disinfector WD 290 (09). The washer-disinfector WD 290 (09) must be de- activated.
- The casings of the SISO may be removed after undocking from the washer- disinfector WD 290 (09) only.
- Before starting up the SISO, check whether all casings and safety devices are installed.
- Operation of the SISO is permitted with original accessories only.
- Original spare parts may be used only. The SISO must not be modified, otherwise warranty expires.
- Disposal of the SISO must be carried out professionally and in accordance with the country-specific directions. See also 7.3 Disposal.
- Do not touch the rack during the transport and keep a safety distance of the device.

## 2.5 Notes on safety SISO with WD290 machine

**WARNING**
Burn hazard at the rack.
The racks are hot immediately after the cleaning process.
Touch the racks with suitable protective gloves or wait until the racks are cooled down.

**WARNING**
**Loading and unloading with docked transfer carts only.**
The racks might tilt and fall down when no transfer cart is docked.
Dock one suitable transfer cart each to the loading and unloading side.

**WARNING**
**Danger of crushing hands at the cover of the docking device**
At the cover of the docking device there is danger of crushing fingers and hands by approaching racks.
Never reach between the roller conveyor and the cover with your hands. Always remove the racks by means of a transfer cart.

**WARNING**
**Danger of crushing hands between racks and WD 290 (09)**

During transport of the racks into the washer-disinfector WD 290 (09) there is danger of crushing fingers and hands.

Do not touch the rack during transport through the door. If required, only touch the rack at the front or rear side centrally to avoid danger of crushing with the door frame.

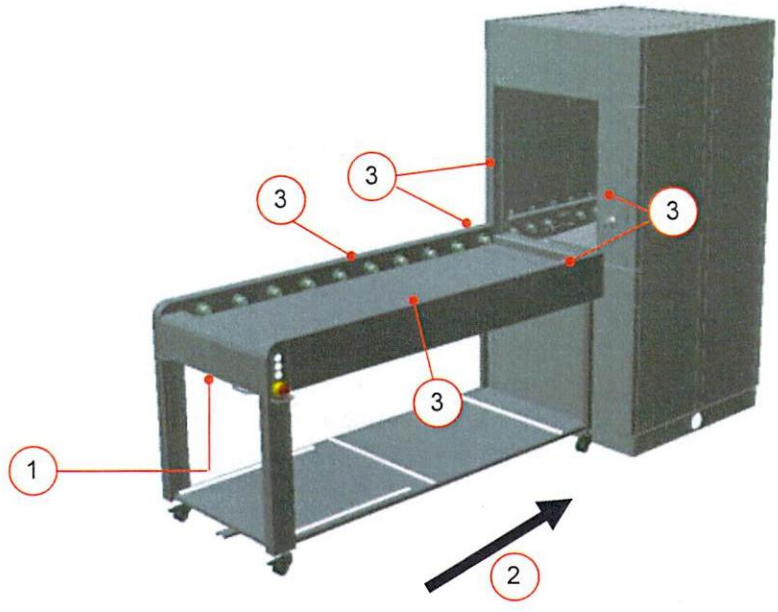
**WARNING**
**Danger of crushing hands between rack and roller drive**
During transport of racks on the roller conveyor, there is danger of crushing fingers and hands between drive roller and the rack.Do not touch the drive rollers during operation.

**WARNING**
Do not damage electrical connections at the docking device
When moving or docking and undocking of the SISO, the electrical connections can be damaged.
When moving the SISO, take care not to damage the electrical connections and dock the SISO to the appropriate device on the correct side of the washer-disinfector WD 290 (09) only.

**WARNING**
**Dangerous voltage!**
Switch off main switch before opening machine casing.

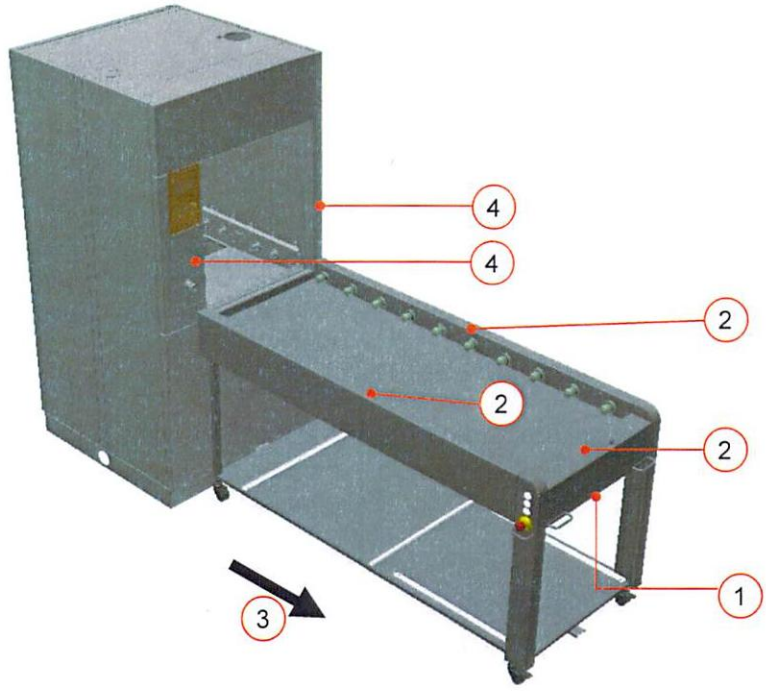
## 2.6 Position of the rating plate and warning labels

### 2.6.1 *SISO - Loading side*




| Pos. | Warning label | Significance |
|---|---|---|
| 1 | | Position of the rating plate. See chapter 1.2 "Rating plate". |
| 2 | -- | Transport direction of the loading carrier on the SISO (loading side) |
| 3 | | **Danger of crushing hands between racks and WD 290 (09)**<br>During transport of the racks into the washer-disinfector WD 290 (09) there is danger of crushing fingers and hands.<br>Do not touch the rack during transport through the door. If required, only touch the rack at the rear side centrally to avoid danger of crushing with the door frame. |

### 2.6.2 *SISO - Unloading side*




| Pos. | Warning label | Significance |
|---|---|---|
| 1 | | Position of the rating plate. See chapter 1.2 "Rating plate". |
| 2 | | **Danger of crushing hands at the cover of the docking device.** At the cover of the docking device and at the stopper there is danger of crushing fingers and hands by approaching racks on the unloading side. (On the WD290 (09) machine) |
| 3 | -- | Transport direction of the rack on the SISO (unloading side) |
| 4 | | **Burn hazard at the rack** The racks are hot immediately after the cleaning process. Touch the racks with suitable protective gloves or wait until the racks are cooled down. |

## 2.7 Safety devices and failure elimination

The SISO is equipped with an emergency-off pushbutton on the loading side and one on the unloading side. The <emergency-off> push buttons are situated at the front of the loading side and at the end of the unloading side.

### 2.7.1 *Emergency-off button*

If an <emergency-off> button on the loading or unloading side is pressed, the roller conveyor is stopped on the respective side.
The illuminated <ON/OFF> button with signal light operation flashes white.

1) Eliminate the cause of the failure.
2) Unlock the <emergency-off> button.
3) Press the illuminated <ON/OFF> button with signal light operation (twice).
   → *The SISO is in **Ready** state.*
   → *The illuminated <ON/OFF> button with signal light.*
   → *Operation lights up white.*

### 2.7.2 *Runtime monitoring*

The transport time of the rack from one parking space to the next is monitored. If the nominal position of the rack on the transport conveyor is not reached within a present time (standard setting: 20 seconds), the SISO is set into failure state.

The illuminated <ON/OFF> button with signal light operation flashes up white on the respective side.

1) Press the illuminated <ON/OFF> button with signal light Operation (twice).
   → *The SISO is in **Ready** state.*
   → *The illuminated <ON/OFF> button with signal light.*
   → *Operation lights up white.*

# 3 MACHINE DESCRIPTION

The SISO serves for loading and unloading of racks at a washer-disinfector WD290 (09). The SISO can be docked to a washer-disinfector type WD 290 (09) only.

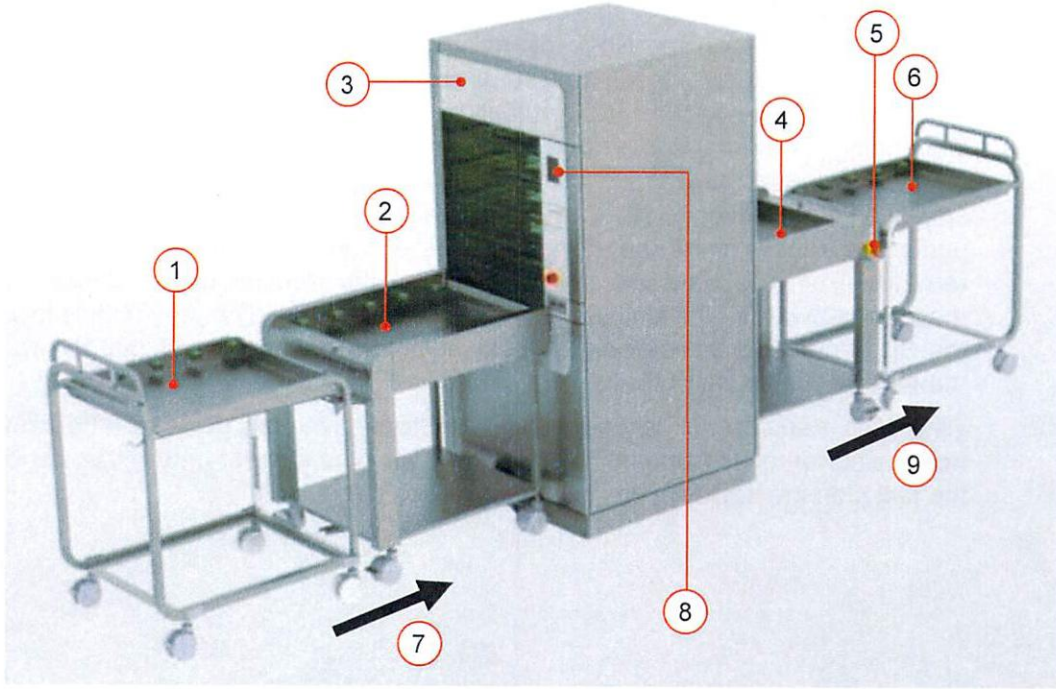
Racks are automatically transported on the SISO. There are different possible combinations of SISO with washer-disinfector WD 290 (09). See part 3.2 Configuration possibilities.

The washer-disinfector WD 290 (09) can also operate independently (without SISO).

## 3.1 SISO with WD 290 (09)

The washer-disinfector WD 290 (09) enables cleaning of racks and prevents continuous pressure drop on the unloading side (room air-overpressure towards loading side). To prevent direct air exchange between loading and unloading side temporarily, the doors of the washer-disinfector WD 290 (09) cannot be opened contemporaneously.

### 3.1.1 *Overview*




1 Transfer cart loading side
2 SISO loading side (1 parking space)
3 Washer-disinfector WD 290 (09)
4 SISO unloading side (1 parking space)
5 Operating and display unit SISO
6 Transfer cart unloading side
7 Transport direction of racks on the loading side
8 Operating unit WD 290 (09)
9 Transport direction of loading carriers on the unloading side

### 3.1.2 *General*

The racks are automatically transported from the loading side into the washer-disinfector WD 290 (09) by the SISO. The transport conveyors are divided into parking spaces (1-space or 2-spaces); the single racks are transported on to these parking spaces. With a 2-spaces SISO, the racks move from one parking space to the next available parking space.

Depending on the number of available parking spaces (1-space or 2-spaces), a respective number of racks can be transported sequentially. The respective number of racks can be transported sequentially, depending on the number of parking spaces available. The parking spaces therefore serve as a buffer zone.

If a rack is available in front of the empty cleaning chamber WD 290 (09), the door of the loading side is opened automatically. The transport conveyor of the SISO and the rack transport drive of the WD 290 (09) start and transport the rack into the cleaning chamber. When the cleaning position in the cleaning chamber is reached, the transport conveyors stop, the door on the loading side of the washer-disinfector is closed and the programmed cleaning program starts running.

After completed cleaning program, the door on the unloading side opens automatically. If the parking space on the SISO of the unloading side is available and the door of the washer-disinfector is open, the rack transport drive of the WD 290 (09) starts automatically. The rack is moved out of the washer-disinfector and onto the SISO. Depending on the parking place occupancy, the racks are for- warded. The gate on the unloading side of the washer-disinfector is closed. When a rack reaches the last parking space on the loading side, it must be re- moved using a docked transfer cart. With undocked transfer carts the stopper moves upwards and prevents the rack from being removed from the transport conveyor. When the transfer cart is docked, the stopper moves downwards. The Unloading button must be pushed and the rack is forwarded from the SISO onto the transfer cart. Additionally, the operator must pull the rack onto the transfer cart until stop position.

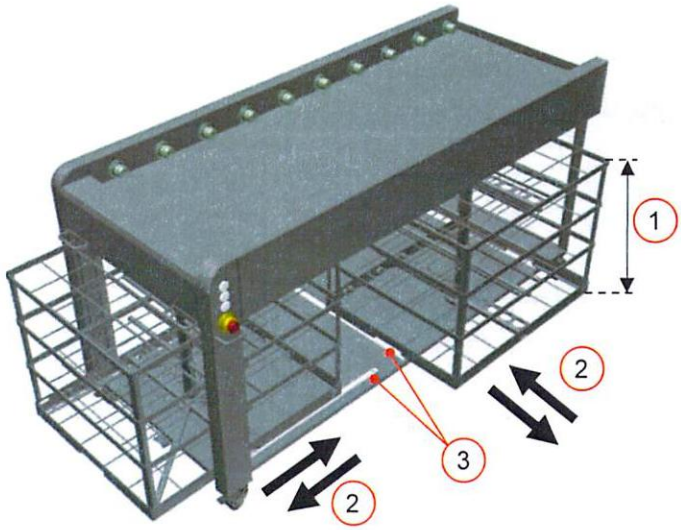
When the transfer cart is undocked, the stopper moves upwards and prevents racks from being removed from the transfer conveyor. The stopper on the transfer cart secures the racks on the transfer cart (fall arresting device).

### 3.1.3 *Storage of the racks on the bottom shelf*

On the bottom shelf of the module there is possibility to store max. two racks.

**NOTE**
Maximum height of the rack is 570mm

**CAUTION**
The racks must be placed on the guides in order not to damage the lower shelves and racks themselves.



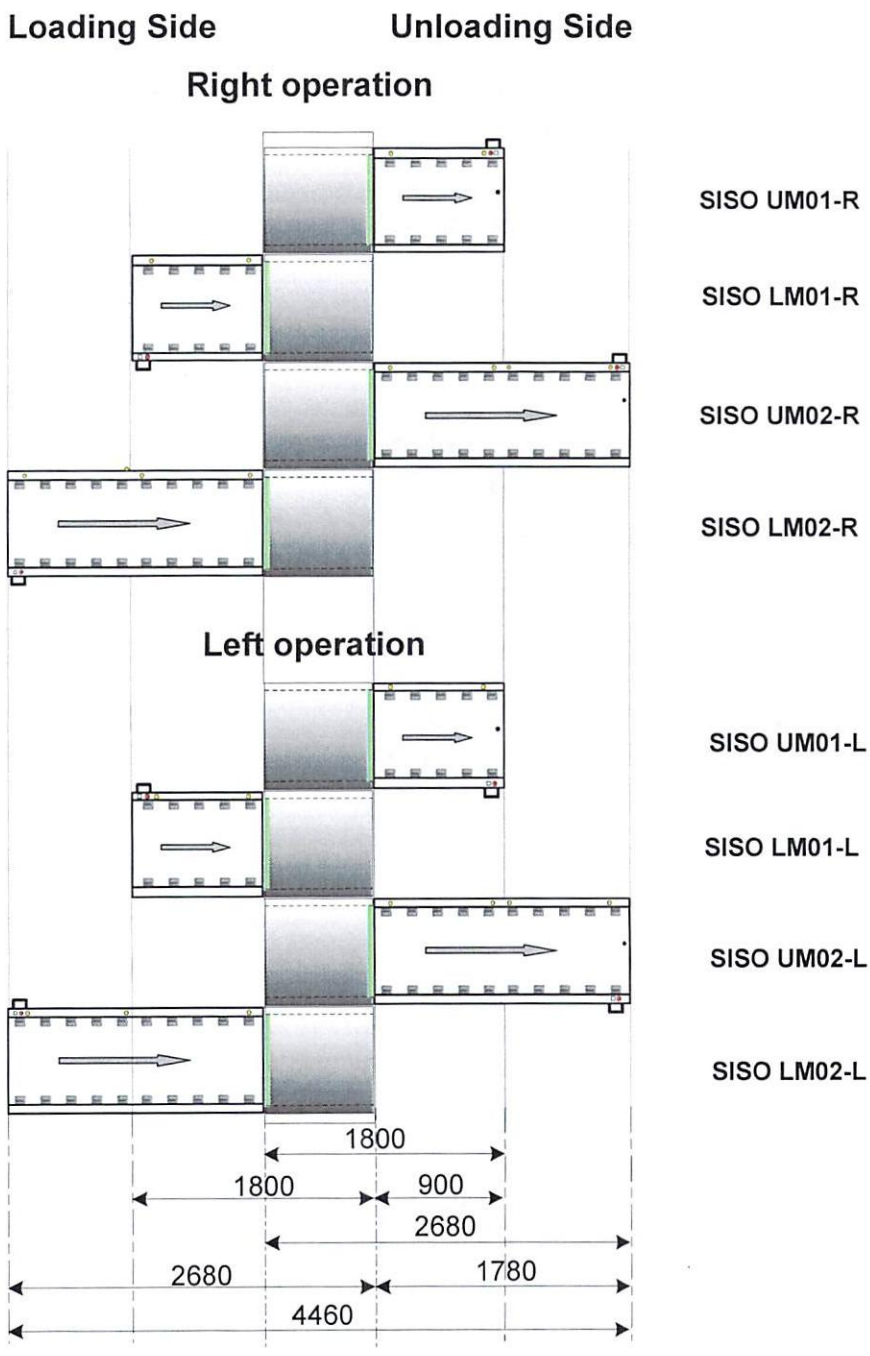

1 Max. height of the rack is 570mm
2 The direction of installation racks on the bottom shelf.
3 Guides

## 3.2 Configuration possibilities

The SISO has a modular structure and can be individually configured with a washer-disinfector WD 290 (09). The operating and display unit is installed either on the right or on the left side.

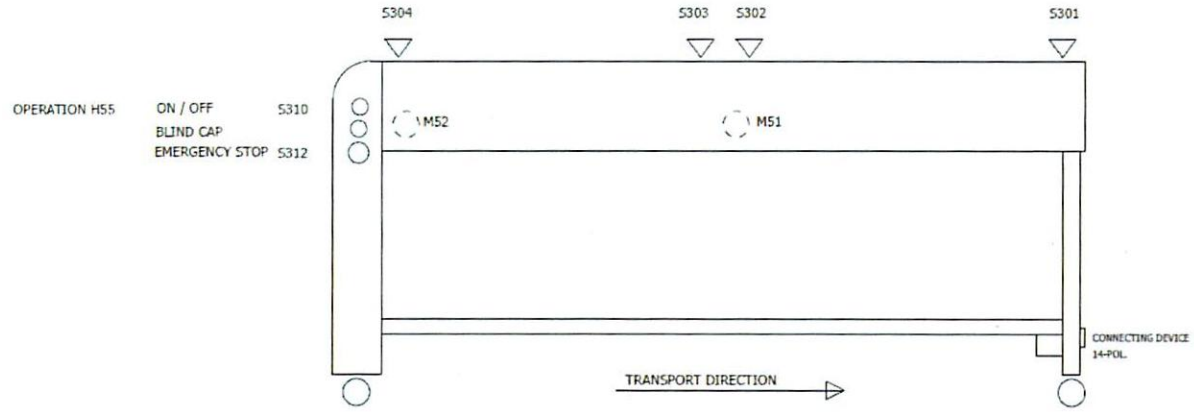
| SISO | Type |
|---|---|
| Loading station - 1 parking space | SISO-LM01 (R or L) |
| Loading station - 2 parking spaces | SISO-LM02 (R or L) |
| Unloading station - 1 parking space | SISO-UM01 (R or L) |
| Unloading station - 2 parking space | SISO-UM02 (R or L) |

### 3.2.1 *Type overview*

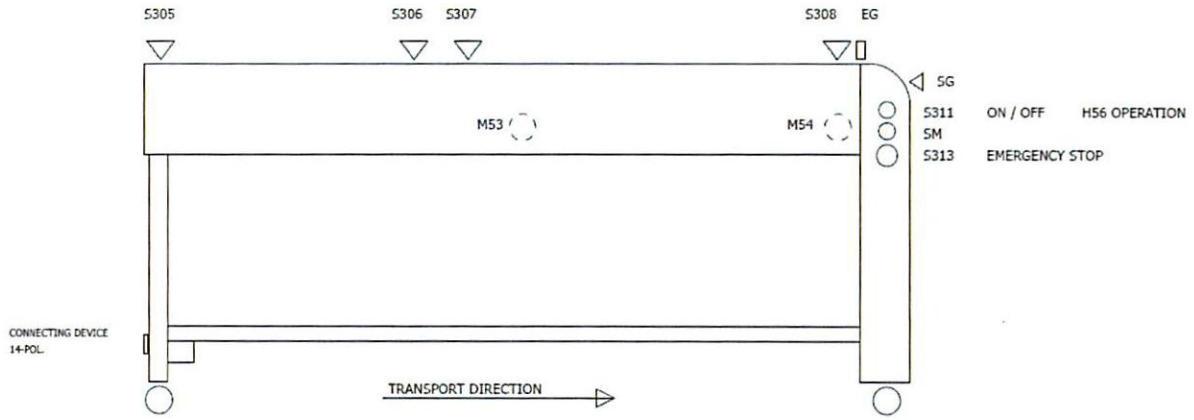


## 3.3 Position of switches, buttons and motors

### LOADING MODULE




### UNLOADING MODULE

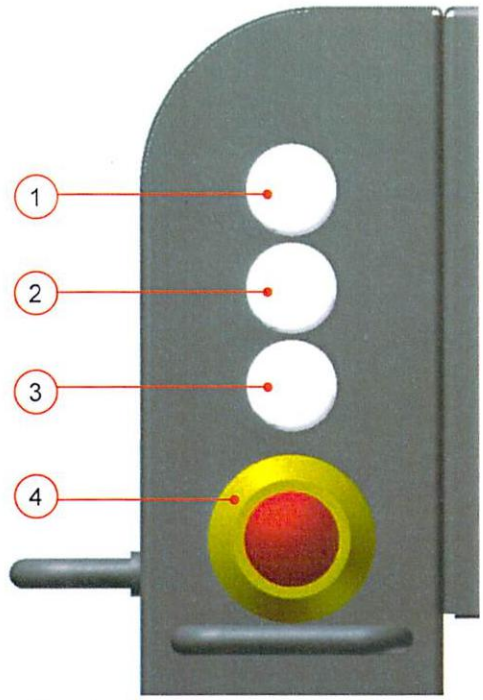



| DESIGNATION | TYPE | FUNCTION |
|---|---|---|
| S310, S311 | Push button | ON/OFF, Operation |
| S312, S313 | Emergency stop button | Emergency stop |
| SM | Push button | Rack unloading |
| SG | Limit switch | Detection of the transport trolley |
| EG | Lifting magnet | Mechanical protection |
| S301 – S308 | Light switch | Rack detection |
| M51 – M54 | Motor | Rollers drive |

## 3.4 The operating and display unit at the SISO

### 3.4.1 *On the side part of the loading side*

There is an operating and display unit on the side part of the loading side.

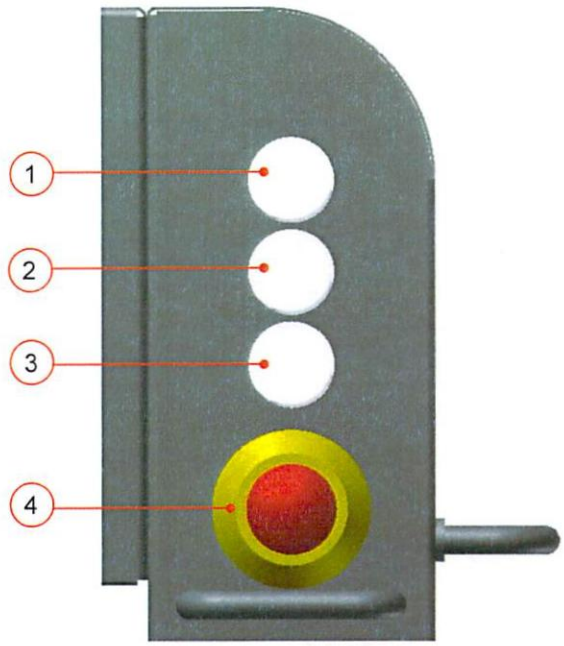



1 Illuminated <ON/OFF> button with signal light Operation
2 Blank cover
3 Blank cover
4 <Emergency-off > push button

| Pos. | State/action | Description |
|---|---|---|
| 1 | Illuminated white | The SISO is in **Ready** state. No failure is active. The SISO is started by pushing the button once. When the SISO is active, it can be deactivated by pushing the button once. |
| | OFF | The SISO is in **Not ready** state. |
| | Flashes white | A failure has occurred. The failure is acknowledged pushing the button twice. The <emergency-off> button must be unlocked. |
| 2 | No function | Blank cover |
| 3 | No function | Blank cover |
| 4 | Pressed | The SISO is in **Failure** state. |
| | Unlocked | The SISO can be set in **Ready** state. |

### 3.4.2 *On the side part of the unloading side*

There is one operating and display unit on the side part of the unloading side.




1 Illuminated button< ON/OFF> with signal light Operation
2 <Extract rack> button
3 Blank cover
4 <Emergency-off> push-button

| Pos. | State/action | Description |
|---|---|---|
| 1 | Illuminated white | The SISO is in **Ready** state. No failure is active. The SISO is started by pushing the button once. When the SISO is active, it can be deactivated by pushing the button once. |
| | OFF | The SISO is in **Not ready** state. |
| | Flashes white | A failure has occurred. The failure is acknowledged pushing the button twice. The <emergency-off> button must be unlocked. |
| 2 | Actuated | The rack is transported towards the transfer cart by the SISO. |
| 3 | No function | Blank cover |
| 4 | Pressed | The SISO is in **Failure** state. |
| | Unlocked | The SISO can be set in **Ready** state. |

# 4 OPERATING THE SISO

## 4.1 Operating the SISO at the washer-disinfector WD 290 (09)

**NOTE**
Use the appropriate transfer cart for transport of the rack.

**CAUTION**
**Risk of damage!**
Manually pushing or drawing of loaded/unloaded rack over rollers may cause damage of the rollers, O-ring and other surfaces.
→ *Let the rack move automatically over transport conveyor module.*

**CAUTION**
Do not touch the rack during the transport and keep a safety distance of the device.

### 4.1.1 *Operating on loading side*

1) Push the transfer cart with rack towards the docking device.
   → *The transfer cart docks to the docking device with the locking hook and is mechanically locked.*
2) Push the rack onto the rollers of the transport conveyor until the rack is further transported automatically.
   Now the rack is transported to the next free space on the transport conveyor. When it comes in front of the empty cleaning chamber WD 290 (09), the door on the loading side opens automatically. Then the rack is transported automatically into the cleaning chamber. When the cleaning position in the cleaning chamber is reached, the transport conveyor stops, the gate close on the loading side of the washer-disinfector and the pre-set cleaning program starts.

### 4.1.2 *Operating on unloading side*

When the cleaning program is complete, the gate on the unloading side opens automatically. If the parking space of the SISO on the unloading side is unoccupied and the door of the washer-disinfector WD 290 (09) on unloading side opened, the rack drive in the WD 290 (09) starts automatically. The rack is moved out of the washer-disinfector onto the transport conveyor SISO. Depending on the parking place occupancy, the racks are forwarded. The gate on the unloading side of the washer-disinfector is closed. When a rack reaches the last parking space on the loading side, it must be removed by transfer cart docked to the SISO module.

**NOTE**
If there is a rack available on the last parking space of the transport conveyor, it must be removed immediately. Unnecessary downtimes can be avoided in this way.

1) Push an empty transfer cart towards the docking device.
   → *The transfer cart docks to the docking device with the locking hook and is mechanically locked.*
   → *The stopper automatically moves downwards.*
   → *If the transfer cart is docked to the loading side, the next rack is transported onto the transfer cart.*
2) Push and hold the <**Extract rack**> button until the rack is transported from the SISO onto the transfer cart.
3) Pull the rack onto the transfer cart completely by hand.

---

**CAUTION**
The washed items and racks are hot!
Always wear protective goggles and gloves when unloading.

---

4) Undock the transfer cart immediately and remove it from the working area.
   → *If the transfer cart is undocked, the stopper of the SISO is extracted. The stopper on the transfer cart secures the rack on the transfer cart (fall arresting device).*

## 4.2 Using transfer cart

The SISO module can be loaded/unloaded using a transfer cart (not part of this manual). The transfer cart can be docked on transport module on clean /unclean side of transport conveyor.

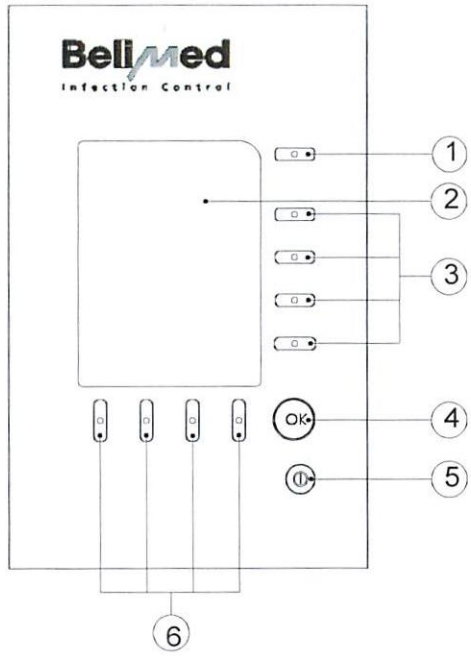
1 Transfer cart
2 Docking device with locking hook
3 Stopper
4 Holder
5 SISO module

# 5 OPERATING THE WASHER-DISINFECTOR WD 290 (09) / SISO

**NOTE**
For detailed operation of the washer-disinfector WD 290 (09), see operating instructions WD 290 (09).

## 5.1 Display operating conditions / operation modes WD 290 (09)

### 5.1.1 *Operating unit loading side - overview*



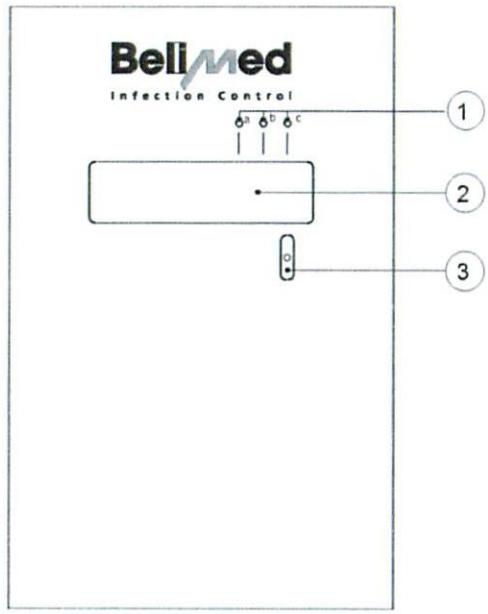

1 <Menu> button
2 Display - of the status line, communication bar, action bar, selection possibilities
3 <Selection> buttons
4 <Confirmation> button OK
5 <ON/OFF> button
6 <Action> button

### 5.1.2 *Operating unit loading side - display of status bar*

The status bar informs about certain settings and occurrences via icons and data. The status bar depends on the device and has the same content on each mask.

| Symbol | Description | Symbol | Description |
|---|---|---|---|
| (sw) | Message inactive | (orange) | Warning active |
| (red) | Failure active | | Doors locked |
| | Doors open | | Doors closed |
| | Door loading side open | | Door unloading side open |
| (green) | Automatic active | | Automatic inactive |
| (red) | Automatic failure | | |

### 5.1.3 *Operating unit unloading side – overview*




1 LED displays:
LED red flashing light -Warning
LED red permanent light -Failure
LED green permanent light - Program sequence active
LED green permanent light - Doors locked
2 Display - of the status and action bar
3 <Action> button

### 5.1.4 *Operating unit - unloading side - display of status bar*

The status bar indicates certain settings and actions via icons and data. The display is black / white.

| Symbol | Description | Symbol | Description |
|---|---|---|---|
| | Automatic active | | Automatic inactive |
| | Doors locked | | |
| | Doors open | | Doors closed |
| | Door loading side open | | Door unloading side open |

## 5.2 Operating modes

For automation of WD 290 (09) there are four different basic operating modes. These are defined as follows:

### 5.2.1 *WD 290 (09) without automation*

| | | |
|---|---|---|
| SISO loading module | | Not connected or not activated. The illuminated <ON/OFF> button with signal light Operation on the loading side SISO is not illuminated. |
| SISO unloading module | | Not connected or not activated. The illuminated <ON/OFF> button with signal light Operation on the unloading side SISO is not illuminated. |
| Display in status bar WD 290 (09) | | |

In this state the WD 290 (09) continues running normally. Nevertheless, the racks must be manually loaded and unloaded.

### 5.2.2 *WD 290 (09) with automation loading side*

| | | |
|---|---|---|
| SISO loading module | | Connected and activated. The illuminated <ON/OFF> button with signal light Operation on the loading side SISO is illuminated. |
| SISO unloading module | | Not connected or not activated. The illuminated <ON/OFF> button with signal light Operation on the unloading side SISO is not illuminated. |
| Display in status bar WD 290 (09) | | |

### 5.2.3 *WD 290 (09) with automation unloading side*

| | | |
|---|---|---|
| SISO loading module | | Not connected or not activated. The illuminated <ON/OFF> button with signal light Operation on the loading side SISO is not illuminated. |
| SISO unloading module | | Connected and activated. The illuminated <ON/OFF> push button with signal light Operation on the unloading side SISO is illuminated. |
| Display in status bar WD 290 (09) | | |

In this state the WD 290 (09) can be manually loaded. Unloading is carried out automatically.

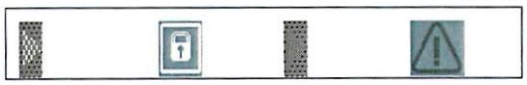
### 5.2.4 *WD 290 (09) with automation loading and unloading side*

| | | |
|---|---|---|
| SISO loading module | | Connected and activated. The illuminated <ON/OFF> button with signal light Operation on the loading side SISO is illuminated. |
| SISO unloading module | | Connected and activated. The illuminated <ON/OFF> push button with signal light Operation on the unloading side SISO is illuminated. |
| Display in status bar WD 290 (09) | | |

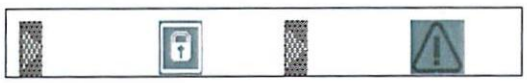
In this state the WD 290 (09) is automatically loaded and unloaded.

### 5.3 Further displays of operating modes WD 290 (09) with SISO

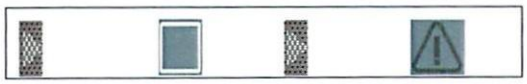
Program loading side failure, unloading side active.



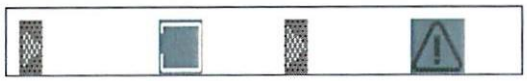
Program active, unloading side failure.



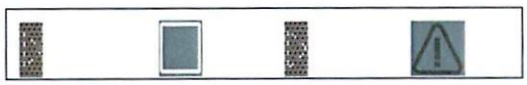
Program active, modules loading and unloading side activated.



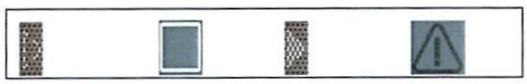
Modules loading side and unloading side active.



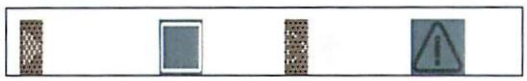
Modules loading and unloading side active, door loading side open.



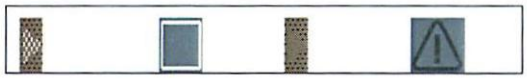
Modules loading and unloading side not ready.



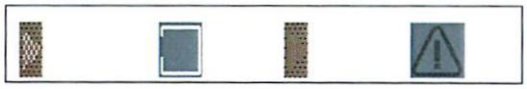
Modules loading side not ready, unloading side modules active.



Modules loading side active, unloading side not ready.



Loading side active, transport unloading side failure.



Loading side active, door open. Trans- port unloading side failure.

## 5.4 Display of failures WD 290 (09)

### 5.4.1 *Failure SISO loading side*

| | | | |
|---|---|---|---|
| Display in status bar WD 290 (09) | | | |

The failure is displayed instead of the operating mode. The illuminated <ON/OFF> button with signal light Operation on the loading module flashes.

**Cause:**

- Undefined position of the racks on the SISO - loading side
- Error detection of light barriers
- Manual forwarding of racks on the SISO - loading side

**Elimination:**

1) Remove all racks from the SISO - loading side.
2) Confirm the failure via the illuminated <ON/OFF> button with signal light Operation at the SISO or <ON/OFF> button of the WD 290 (09).
3) Pushing the illuminated <ON/OFF> button with signal light Operation, the SISO
   → *Loading side is re-activated.*
4) Check of connectors at the SISO for loose contacts.

### 5.4.2 *Failure SISO unloading side*

| | | | |
|---|---|---|---|
| Display in status bar WD 290 (09) | | | |

The failure is displayed instead of the operating mode. The illuminated <ON/OFF> button with signal light Operation on the SISO - unloading side flashes.

**Cause:**

- Undefined position of racks on the SISO - unloading side
- Error detection of light barriers
- Manual moving of racks on the SISO - unloading side

**Elimination:**

1) Remove all racks on the SISO - unloading side.
2) Confirm the failure via the illuminated <ON/OFF> button with signal light Operation at the SISO or <ON/OFF> button of the WD 290 (09).
3) Push the illuminated <ON/OFF> button with signal light Operation, the SISO
   → *Unloading side is re-activated.*
4) Check of connectors at the SISO for loose contacts.

### 5.4.3 *Emergency-Off SISO loading side*

| | | | |
|---|---|---|---|
| Display in status bar WD 290 (09) | | | |

The failure is displayed instead of the operating mode. The illuminated <ON/OFF> button with signal light Operation on the SISO - loading side flashes. Additionally all motors are deactivated.

**Cause:**

- <Emergency-Off> on the SISO loading side activated.
- SISO loading side not correctly positioned. The position is monitored via a Reed switch.

**Elimination:**

1) Unlock the <emergency-off> button.
2) Check correct position of the SISO - loading side.
3) Confirm error via the illuminated <ON/OFF> button with signal light Operation at the SISO or <ON/OFF> button of the WD 290 (09).
4) Push the illuminated <ON/OFF> button with signal light Operation, the SISO - loading side is activated again.

### 5.4.4 *Emergency-Off SISO unloading side*

| | | | |
|---|---|---|---|
| Display in status bar WD 290 (09) | | | |

The failure is displayed instead of the operating mode. The illuminated <ON/OFF> button with signal light Operation on the SISO - unloading side flashes. Addition- ally, all motors are deactivated.

**Cause**:

- <Emergency-of>f on the SISO unloading side activated.
- SISO unloading side not correctly positioned. The position is monitored via a Reed switch.

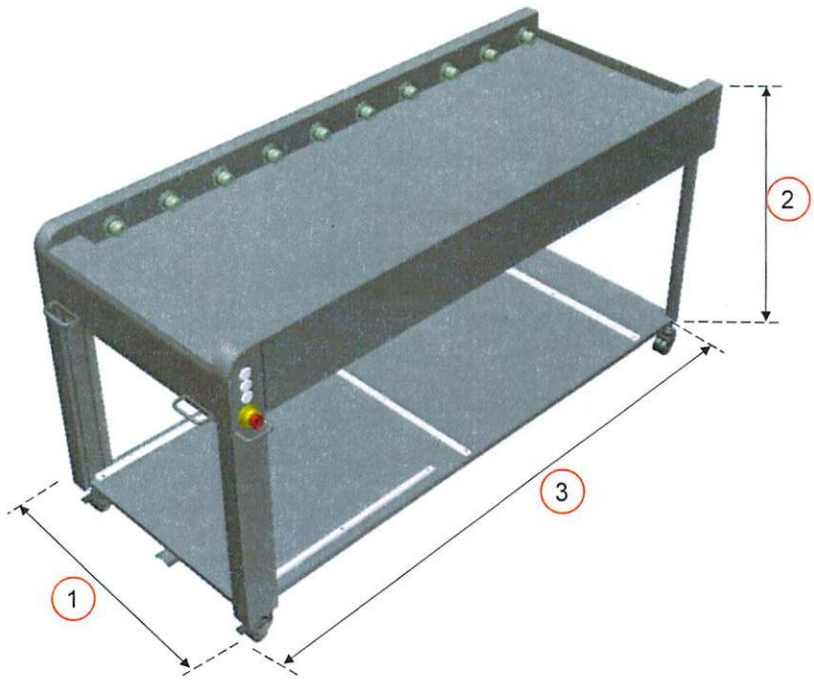
**Elimination:**

1) Unlock the <emergency-off> button
2) Check correct position of the SISO - unloading side.
3) Confirm error via the illuminated <ON/OFF> button with signal light Operation at the SISO or <ON/OFF> button of the WD 290 (09).
4) Push the illuminated button <ON/OFF> with signal light Operation, the SISO

   → *Unloading side is re-activated.*

# 6 TECHNICAL DATA AND CONNECTIONS

## 6.1 Weights and measures




| Position | Dimension | Value |
|---|---|---|
| 1 | Width - SISO 1-space and SISO 2-spaces | 727 mm |
| | Width with protection for <emergency> button – SISO 1-space and SISO 2-spaces | 774 mm |
| 2 | Height - SISO 1-space and SISO 2-spaces | 905 mm |
| 3 | Length - SISO 1-space | 900 mm |
| | Length - SISO 2-spaces | 1780 mm |
| | Weight - SISO 1-space | 65 kg |
| | Weight - SISO 2-spaces | 108 kg |

## 6.2 Electric connections

Voltage supply as well as electrical safeguard is affected via the washer-disinfector WD 290 (09).

| SISO - loading side | SISO 1-space | SISO 2-spaces |
|---|---|---|
| Supply voltage | 24V AC ± 10%<br>24V DC ± 10% | 24V AC ± 10%<br>24V DC ± 10% |
| Protection on WD290 | 6A | 6A |
| Max. Power | 27,5W | 55W |

| SISO-unloading side | SISO 1-space | SISO 2-spaces |
|---|---|---|
| Supply voltage | 24V AC ± 10%<br>24V DC ± 10% | 24V AC ± 10%<br>24V DC ± 10% |
| Protection on WD290 | 6A | 6A |
| Max. Power | 55W | 85W |

## 6.3 Noise level

| Criterion | Value |
|---|---|
| Max. noise generation | < 60 dB (A) |

## 6.4 Installation conditions (site of operation)

| Criterion | Requirement |
|---|---|
| Max. height site of operation | up to 1600 m above sea level |
| Max. air humidity up to 31℃ | 80% |
| Max. air humidity at 40℃ | 50% |
| Max. air pressure (1600 m above sea level) | 180 hPa |
| Environmental or ambient temperature | +5℃ to +40℃ |

The transport conveyor may be operated in interior areas of hospitals only.

# 7 TRANSPORT, INSTALLATION AND DISPOSAL

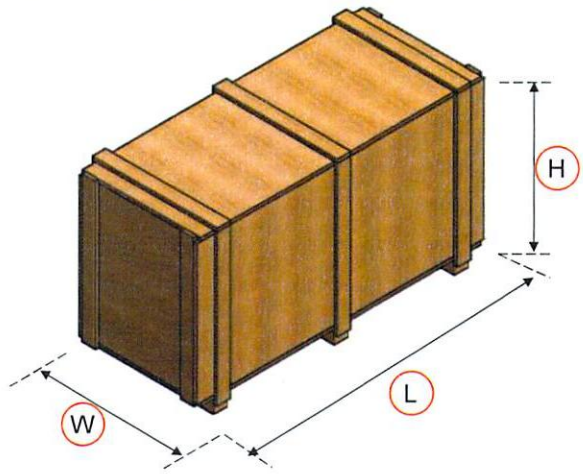
## 7.1 Transport

**CAUTION**
Transport the roller conveyor carefully in order to prevent damage, caused by forceful impact or load when loading and unloading the equipment.

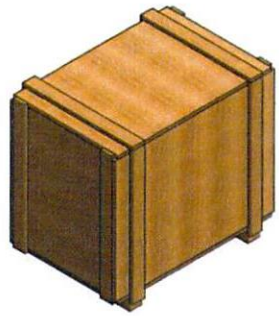
### 7.1.1 *Packaging*

Each SISO 2-spaces module and SISO 1-space module is packed and delivered in proper wooden crate.

**SISO 2-spaces**




**SISO 1-space**



| Module SISO | SISO 2-spaces | SISO 1-space |
|---|---|---|
| Packaging dimension in mm [L x W x H]: | 2150 x 940 x 1215 | 1350 x 940 x 1215 |
| Weight [product + packaging]: | 230kg / 507lbs | 180kg / 397lbs |

### 7.1.2 *Moving the individual units*

The equipment can be lifted and transported only in wooden crate by means of a fork- lift truck or pallet truck. The pallet truck must have the same length as the transport crate. Centre of gravity is located at the centre of crate. Always insert the bars of fork-lift under the crate from the front or back side. The sides can be identified by the warning notices and the packing list.

### 7.1.3 *Intermediate storage*

If the machine is not installed right after delivery, it must be appropriately covered and stored in order to prevent intrusion of dust and humidity.

### 7.1.4 *Scope of delivery*

The content of the delivery must be checked for completeness on receipt using the delivery note. Possible transport damage and/or missing parts must be reported to the forwarder or Belimed immediately.

## 7.2 Installation and assembly

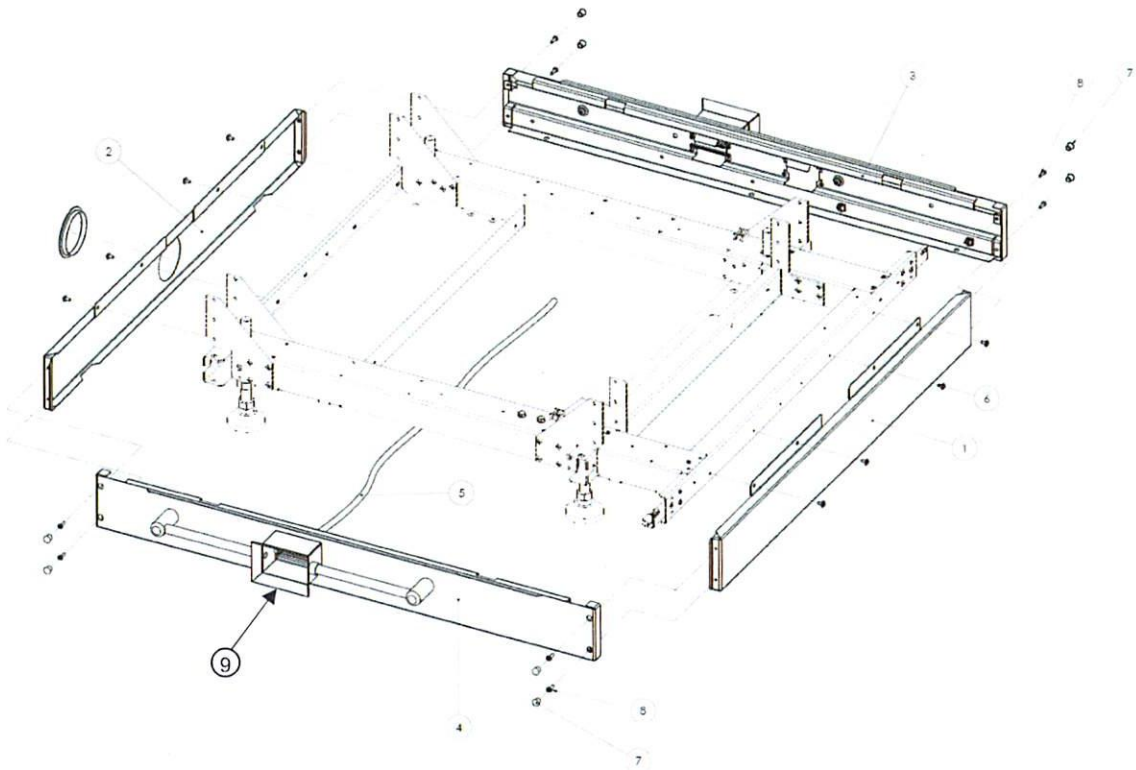
### 7.2.1 *Installation of the base panel for SISO on the WD 290 (09)*

The base panel for SISO is additional assembly, which enables connecting the SISO system on the washer–disinfector WD 290 (09).
The power supply (Safety Extra Low Voltage, SELV) and the communication signals to operate the SISO with the WD 290 (09) comes via the connector on the base panel of the WD 290 (09).
The Base panel is not part of the SISO System. It must be delivered with the machine WD 290 (09) when expected that it will operate together with SISO.

**General instruction**

After the WD 290 (09) is installed, the base panel with the connector should be mounted like follows:

1) Mount the sides of base panels (Pos. 1 & Pos. 2) on the WD 290 (09)




2) Mount the front base panel (Pos. 3 & Pos. 4) with the connector to the side base panels.
3) The signal cable from the connector must be laid out very carefully and should be laid out under the base frame from of the WD 290 (09) (Pos. 5).

---

**CAUTION**
Do not lay out the cable over the base frame, because of the opening door will damage the cable and door!

---

4) Make sure that the docking mechanism (Pos. 9) on the base panel is tight well.
5) Control the function of the all sensors and switches.

**Additional labelling**

1) Stick the label "Danger for crushing hands between racks and WD 290 (09)" on loading side
See chapter „2.6 Position of the rating plate and warning labels.

2) Stick the label „Burn hazard at the rack" on unloading side
See chapter „2.6 Position of the rating plate and warning labels.

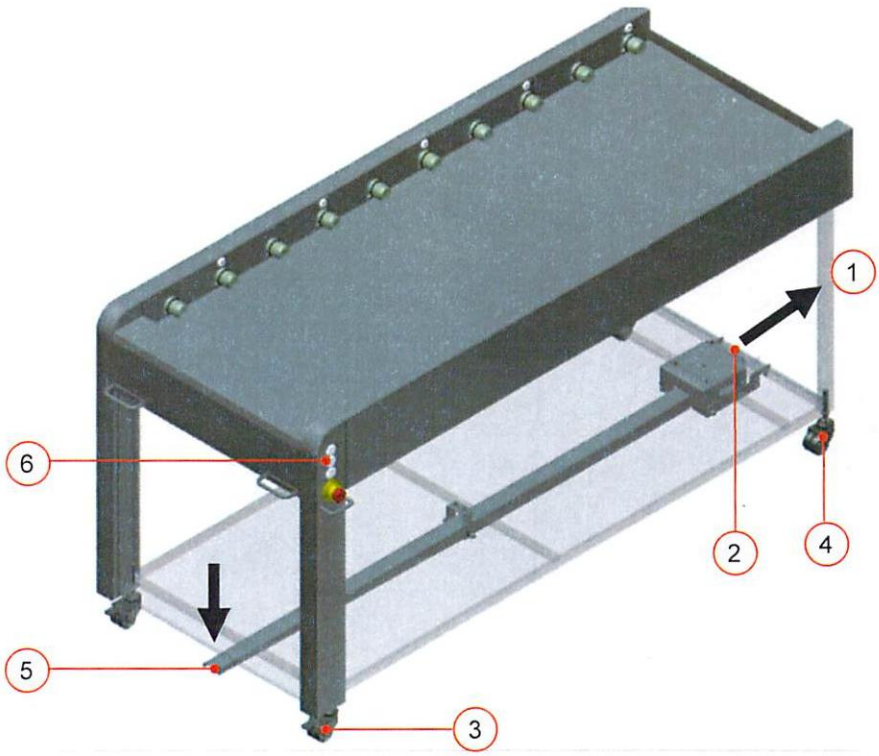
### 7.2.2 *Docking / undocking the SISO to/from the washer-disinfector WD 290 (09)*

**Overview**

After the installation of the base panel on washer-disinfector WD 290 (09) the SISO can be docked.

For installation of the washer-disinfector WD 290 (09), please refer to the respective operating instructions.

SISO 2-spaces without bottom shelve:




1 Towards docking device of the washer-disinfector WD 290 (09)
2 Connector of centring mechanism
3 Wheel with parking brake
4 Wheel
5 Foot trigger for of centring mechanism
6 Operating and display unit SISO

**NOTE**
During SISO docking / undocking the washer-disinfector WD 290 (09) can operate. (Not necessary to be switched off).

## Docking SISO

***Prerequisite:***

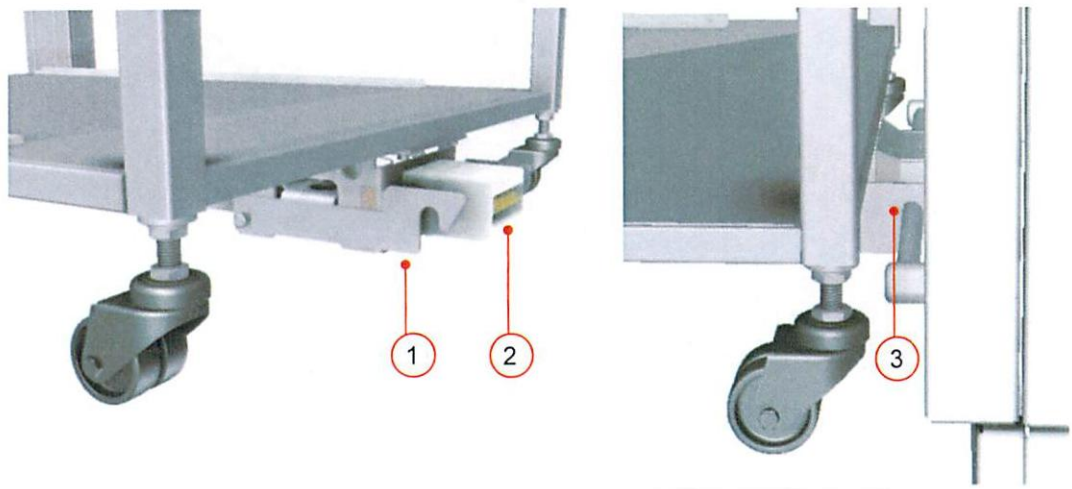
- *SISO must be deactivated:*

1) Press the illuminated button <ON/OFF> on operating panel to deactivate SISO.
2) Move the SISO towards the docking device of the washer-disinfector WD 290 (09).
3) Push the connector of the SISO into the coupling of the docking device until it snaps audibly.
4) Secure the position of the SISO by brakes on both steering wheels.
5) When turn on the washer-disinfector WD 290 (09) the SISO is supplied with voltage via the docking device:
   → *The illuminated <ON/OFF> button with signal light Operation lights up white.*
   → *The SISO is in **Ready** mode.*

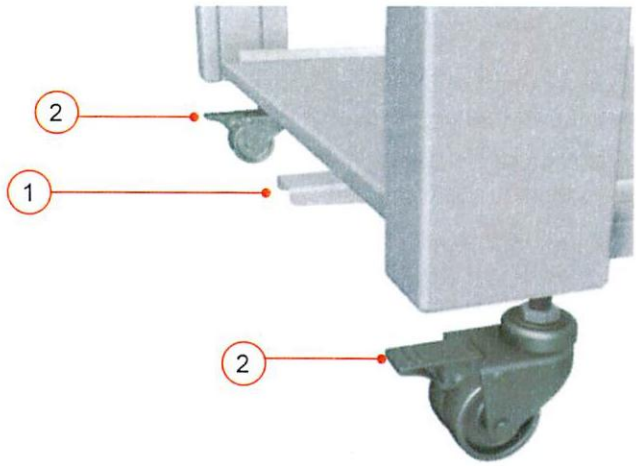
---

**CAUTION**
Secure the position of the SISO by brakes on both steering wheels.

---




1 Positioning complete
2 Centring block with connector
3 Module SISO and Washer-disinfector WD 290 (09) connected




1 Foot trigger
2 Steering wheels with brakes
- Horizontal position: module SISO unblocked
- Vertical position: module SISO blocked

## Undocking SISO

SISO module has to be undocked when:
- Necessary to access the washer-disinfector WD 290 (09)
- Necessary to check/maintain parts.

***Prerequisite:***
- SISO must be deactivated:

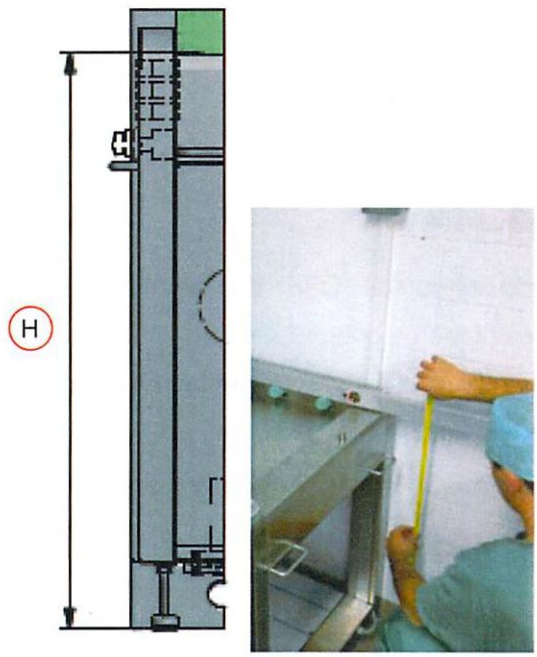
1) Press the illuminated button <ON/OFF> on operating panel to deactivate SISO.
2) Release both brakes of the steering wheels of the SISO.
3) Push down with foot the foot trigger on centring mechanism and pull the SISO out of the docking device of the washer - disinfector.
4) Release the foot trigger and move the SISO into the desired position.

### 7.2.3 *Adjustment of SISO and WD 290 (09)*

1) Adjust the SISO to a height of 870 mm using the adjustable load rollers, measured from floor to upper edge transport conveyor rollers.
2) Adjust the transport modules evenly over the entire length using a water level. In doing so, place the water level onto the transport conveyor rollers.
3) Adjust the SISO on the loading and unloading side to the rack drive of the washer-disinfector WD 290 (09). All modules must have the same level.
4) Secure the position of the SISO via the brakes on both load rollers.

**NOTE**
If a SISO is adjusted for a WD 290 (09), only that specific SISO may be docked to the washer-disinfector. Exchange of SISO modules is not recommended, as the adjusted height might not fit and this might lead to failures.

**NOTE**
The correct position of the modules (SISO and WD 290) is monitored via Reed switches. If the modules are not adjusted exactly or not flush with WD290 (09), failures may occur.




H – height = 870 mm

## 7.3 Disposal

### 7.3.1 *Packaging*

Packaging materials (wood, cardboard, plastics, Styrofoam, etc.) is to be recycled or disposed of in an environmentally friendly way and in accordance with country specific disposal regulations.

### 7.3.2 *Device and its components*

The device to be disposed and its components are no worthless waste. The raw materials are recycled after professional disposal.
Ensure that the roller conveyor and its components are disposed of in accordance with the local official regulations.

**WARNING**
Contamination of machine parts
When necessary, clean contaminated parts of the SISO.

# 8 CLEANING AND MAINTENANCE

**WARNING**
Turn off main switch before performing any cleaning or maintenance.

## 8.1 Cleaning

Product must be cleaned and well-cared for hygienic reasons.
Carry out the following maintenance jobs within the indicated intervals. These intervals refer to a 3 shift operation.

There is **daily visually review of the device recommended**. If necessary, clean the surface and parts with proper cleaning agent.
Always consider the instructions of the cleaning agent manufacturer!

| Activity | Consumables | Interval |
|---|---|---|
| Visually inspection | - | daily |
| Cleaning the rollers | Cleaning agent for plastic cleaner | daily |
| Cleaning the bath | Stainless steel care oil | daily |
| Cleaning the stainless steel surfaces | Stainless steel care oil | monthly |
| Cleaning the synthetic glass * | Cleaning agent for synthetic glass | weekly |
| Cleaning the plastic parts * | Cleaning agent for plastic cleaner | weekly |

* If parts exist on machine

**CAUTION**
**Risk of damage!**
Aggressive solutions or scouring agents cause damage to the glass and other surfaces.
→ *Only use mild detergents and no scouring agents.*
→ *Check the cleaning agents for compatibility with the materials to be cleaned before using them.*

**CAUTION**
**Risk of damage!**
Product must never be sprayed with water for cleaning. Product is not hose-water proof.

## 8.2 Maintenance

The device has different components which must be checked, maintained or replaced on a regular basis such as: safety strip, switches, motor drive, belt, sensors...

**CAUTION**
**Risk of damage!**
Spare parts can be changed only by an authorized person or service that has been suitably educated by the company Belimed.

| Activity | Consumables | Interval |
|---|---|---|
| Maintenance as per Belimed maintenance plan | Spare parts according to the Spare parts list Belimed © | annually |
| Check the entire elements of the product for wear and function.<br><br>If necessary replace the defective parts! | <Emergency stop> buttons.<br>Stickers (replace damaged or missing).<br>Push buttons.<br>Limit switch.<br>Lifting magnet.<br>Light switch.<br>Motor.<br>Drive belt.<br>Gear motor drive.<br>O – Ring.<br>Stub rolls complete.<br>Connector (docking to the WD290).<br>Wiring.<br>Screws. | annually |

Used should be only original spare parts. They are defined on spare part lists which can be found at the Belimed E-desk.

# 9 CONFORMITY AND AUTHORIZATIONS

## IZJAVA O VGRADNJI DELNO DOKOČANIH STROJEV
## EINBAUERKLÄRUNG
## DECLARATION OF INCORPORATION
## DÉCLARATON DE INCORPORATION

**BELIMED Pomivalni sistemi d.o.o.**
**Taborska cesta 38E**
**SI – 1290 Grosuplje**
**Slovenija**

Izjavljamo, na lastno izključno odgovornost, da: / erklärt hiermit in alleiniger Verantwortung, dass: / declares herewith under its sole responsibility that: / déclare sous sa propre responsabilité que :

| | |
|---|---|
| ***Izdelek / Produkt / Product / Produit:*** | ***SISO – Polavtomatski transportni sistem / Semiautomatische system / Semiautomatic system/ Système Semi-Automatique*** |
| ***Funkcija / Function / Funktion / Fonction:*** | ***Sistem za avtomatsko polnjenje in praznenje termodezinfektorja WD290 / System für Beladen/Entladen einer Reinigungsanlage WD290 / System for loading/unlodaing of a washer-disinfector WD290 / Système pur chargement et dechargement de lavage WD290*** |
| ***Tip / Typenbezeichnung / Type / Modèle:*** | ***SISO LMx; SISO UMx*** |

ustreza zahtevam Pravilnika o varnosti strojev in zahtevam naslednjih direktiv: / konform ist mit den folgenden einschlägigen Bestimmungen: / complies with the following regulations: / correspond aux dispositions des autorités compétentes suivantes:

***MD 2006/42/EC, EMC 2004/108/EC***

in naslednjim pomembnim harmoniziranim standardom: / und dass die folgenden harmonisierten Normen zur Anwendung gelangen: / and that the following harmonised standards will be applied: / et que les suivantes normes harmonisées seront appliquées:

***EN 12100; EN 61010-1; EN 61010-2-040; EN 13849-1; EN 60204-1; EN 61326-1; EN 62079***

| | |
|---|---|
| Sistem zagotavljanja kakovosti:/Konformitätsbewertungsverfahren: Conformity assessment procedure:/Procédure d'évaluation de la conformité: | ***ISO 9001:2008 Certificate no.: SI-Q-1527*** |
| Akreditiran laobratorij: / Konformitätsbewertungsstelle: Notified body: / Organisme notifié: | ***SIQ Ljubljana Tržaška c.2; SI-1000 Ljubljana*** |
| Pooblaščena oseba za izdelavo tehnične dokumentacije / Der Person bevollmächtigt ist die technische Unterlagen zusammenzustellen / The person authorized to compile the technical files / La personne autorisée à constituer le dossier technique: | **Franc Možina** Belimed, d.o.o. Head of development Taborska c. 38E; SI-1290 Grosuplje; Slovenia |

*Izdelek, na katerega se nanaša ta izjava, je izdelan za obratovanje skupaj s termodezinfektorjem WD 290 proizvajalca Belimed-AG, Ballwil, Švica. / The product, subject to this declaration, is designed to operate with washer-disinfector WD-290 manufactured by Belimed AG, Ballwil, Switzerland. / Das Produkt, auf das sich diese Erklärung bezieht, wurde entwickelt, um mit dem Reinigungs- und Desinfektionsgerät WD-290 von Belimed AG, Ballwil, Schweiz, zu betreiben. / Le produit auquel se réfère cette déclaration est conçu pour fonctionner avec le laveur-désinfecteur WD-290 fabriqué par Belimed AG, Ballwil, Suisse.*
*Proizvajalec izdelka, na katerega se nanaša ta izjava, bo posredoval ustrezne tehnične podatke na utemeljeno zahtevo nacionalnih organov. / The manufacturer of the product, subject to this declaration, will provide relevant technical information upon a reasoned request of national authorities. / Der Hersteller des von dieser Erklärung bedeckten Produkts wird einer durchdachten Bitte relevante technische Information von nationalen Behörden liefern. / Le fabricant du produit visé par cette déclaration fournira les informations techniques pertinentes à la suite d'une demande dûment motivée des autorités nationales.*

Grosuplje, 05.06.2013

**Franc Možina**
Vodja razvoja / Leitung Entwicklung,
Head of Development / Responsable du développement

**Tomaž Roblek**
Tehnični direktor / Chief Operation Manager,
Technisches Geschäftsführer / Responsable du Opérations

# 10 ORGANISATION BELIMED AG

## 10.1 Manufacturer

**Belimed d.o.o.**

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